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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/383,560 | 08/26/1999 | RICHARD P. RUSIN | 54989USA6A | 6747 |

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EXAMINER

LEWIS, RALPH A

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
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3732

DATE MAILED: 02/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/383,560

Applicant(s)
Rusin

Examiner
Ralph Lewis

Art Unit
3732



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 7, 2001
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6, 9, 12-15, 20-25, 27-32, 41-50, and 52-54 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6, 9, 12-15, 20-25, 27-32, 41-50, and 52-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

Art Unit: 3732

Informality in Claim Numbering

The application prior to applicant's December 10, 2001 amendment ended with claim 51. Claims numbered 50-52 in the preliminary amendment of May 08, 2000 were renumbered 49-51 in accordance with the previous office action of 06/22/01 in order to account for missing claim 30. Accordingly, new claims numbered 53, 54 and 55 have been renumbered as claims 52, 53 and 54, respectively, in order to maintain the consecutive number of claims. Claims dependent on "claim 53" are considered for purposes of this Office Action as being dependent on the submitted claim 53, now renumbered as 52. Applicant is requested to correct the dependencies in response to this Office Action.

Rejections based on 35 U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14 and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is dependent of a canceled claim.

Art Unit: 3732

Rejections based on Prior Art

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 9, 10, 12-15, 20-22, 24, 25, 27-32, 42-50 and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oden et al (5,217,375).

Oden et al discloses a dental prosthesis having a crystalline ceramic substructure B with an porcelain veneer layer A (note column 5, line 32) on its outer surface. Oden et al does not disclose a Contrast Ratio for the crystalline ceramic substructure, but like applicant, Oden et al discloses using aluminum oxide. Oden et al discloses using "highly pure Al₂O₃ [which] become translucent during sintering to full density in vacuum or in hydrogen atmosphere, which is an advantage when natural teeth are to be imitated" (column 5, lines 19-22) and sintering in a "vacuum or under hydrogen atmosphere" or even under "hot isostatic compaction" (column 5, lines 15-19) which according to applicant's own specification gives substantially zero porosity (page 9, line 13). Moreover, column 5, lines 13 and 14, indicate that densities over 99.5% give the best strength. To have merely selected highly pure aluminum oxide sintered to a high density and which inherently has a high degree of translucency would have been obvious to one of ordinary skill in the art. The contrast ratio of such material would inherently meet the claim

Art Unit: 3732

requirements. In regard to the carving step of method claim 20 note column 5, lines 28-30. In regard to limitations regarding time for milling and manual/machine milling, one of ordinary skill in the art would have found it obvious to mill the ceramic body to its final shape in a timely manner with what applicant admits to be conventional prior art techniques.

In response to the Oden et al reference, applicant points to the example given by Oden (ignoring the suggestions of column 5) and argues that the example density of 99.5% would be too porous to provide for a contrast ratio of less than .7 as required by the claims. Oddly enough, applicant's own specification at page 8, lines 23-28 suggests that for aluminum oxide densities of 98% are sufficient and 99.5% (that disclosed in the Oden et al example) are preferred. Applicant's argument is simply not understood. Moreover, it is noted that the Oden et al reference fairly suggests to the ordinarily skilled artisan in the above cited sections of column 5 that highly pure aluminum oxides of very high density be used.

Applicant further argues that since the Oden et al example was sintered in air, it would be more porous and lessen the ability of the material to pass light. Applicant continues by stating that the material used in the Oden example "can be sintered to essentially zero porosity in an atmosphere of H₂ or O₂." In response the examiner notes column 5, lines 19-21 which state "[h]ighly pure Al₂O₃ become translucent during sintering to full density in vacuum or in hydrogen atmosphere, which is an advantage when natural teeth are to be imitated."

Art Unit: 3732

Claims 23 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oden et al (5,217,375) in view of Jones et al (4,639,218).

Oden et al discloses the use of dense sintered aluminum oxide as the substructure, but fails to suggest that the material be formed of a single crystal. Jones et al discloses that a single crystal of crystalline alumina makes an excellent high strength, easily machined, clear material for dental uses. To have merely substituted a high strength single crystal alumina material for the aluminum oxide crystalline material in substrate B of Oden et al would have been obvious to one of ordinary skill in the art as an obvious selection of a known material for a known similarly used device.

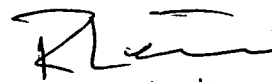
Action Made Final

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Ralph Lewis at telephone number (703) 308-0770. Fax (703) 872-9303.

R.Lewis
February 22, 2002


Ralph A. Lewis
Primary Examiner
AU3732